

October 13, 2004

Mr. Richard Sprott, Director  
Division of Air Quality  
Department of Environmental Quality  
P.O. Box 144820  
Salt Lake City, UT 84114-4820

Dear Mr. Sprott:

**NOTICE OF INTENT: Intermountain Generating Station**

Intermountain Power Service Corporation (IPSC) is hereby submitting a Notice of Intent (NOI) to make certain changes in operation at the Intermountain Generating Station (IGS) in Delta. The IGS is a coal fired steam-electric plant located in Millard County. Specifically, IPSC intends to add an alternate fuel source to its Unit One and Unit Two fuel portfolio. These IGS units are currently permitted to burn bituminous coal, subbituminous coal, fuel oil, used oil, and natural gas. We are proposing to utilize synthetic coal-derived fuel (synfuel) to enhance reliability and lower operating costs. This NOI requests an approval order to proceed as described herein and to make applicable Title V permit changes to operate accordingly.

As required by Utah Administrative Code R307-401-2, the following information is provided:

1. **PROCESS DESCRIPTION:** IGS is a fossil-fuel fired steam-electric generating station that primarily uses coal as fuel for the production of steam to generate electricity. Both bituminous and subbituminous coals are utilized. Fuel oil and used oil are also combusted for light off, flame stabilization and energy recovery.

IGS is a two-unit facility currently operating at a rated capacity of 950 MW per unit. Approximately 5.6 million tons of coal and 600,000 gallons of oil are used each year in the production of electricity. Boiler capacity is rated at 6.9 million pounds per hour of steam flow at 2,822 psi.

IGS has in place bulk handling equipment for the unloading, transfer, storage, preparation, and delivery of solid and liquid fuel to the boilers. No changes of this equipment are required nor expected. No changes in the usage of other raw materials or bulk chemicals are required nor expected.

Note that process diagrams have previously been submitted, and no changes from

those are proposed here.

**PROPOSED CHANGES:** IPSC intends to add synthetic coal-derived fuel to its existing fuel portfolio. This addition will help with long term reliability and lessen fuel related operating costs.

**PRODUCTION SUMMARY:** IPSC operates IGS on a 24 hour per day / 7 day per week continuous base load (full production rate) basis, up to 8,760 hours per year. Nothing in this NOI is intended to change this production aspect. IGS utilizes approximately 5.6 million tons of solid fuel annually, which can vary somewhat as coal quality changes. This consumptive pattern will not change. The solid fuel mix, however, will fluctuate as synfuel is combusted, which will displace an equal amount of coal from the fuel mix portfolio. The solid fuel mix range can extend from 100% coal to 100% synfuel.

2. **EMISSION CHARACTERISTICS:** The composition and physical characteristics of emissions resulting from the proposed change are not expected to change significantly. IPSC expects that pollutant emission rates, chimney mass flow, temperature, air contaminant types, and concentration of air contaminants will remain the same, or at most, have immeasurable changes. The current pollution control devices (PCD) include low-NOx burners, fabric filters and wet scrubbers.
3. **PCD DESCRIPTION:** Present pollution control device equipment for combustion includes dual register low NOx burners with over fire air, baghouse type fabric filters for particulate removal, and flue gas desulfurization scrubbers. The low NOx burners and OFA provide a nominal 60 percent reduction in potential combustion NOx concentration, the baghouse filters operate at nominal 99.95 percent efficiency, and the wet scrubbers operate at nominal 90 percent efficiency. Control equipment for the handling and transfer of solid material include dust collection filters.
4. **EMISSION POINT:** The present emission point for the IGS boilers is a lined chimney that discharges at 712 feet above ground level (5,386 feet above sea level). The chimney location is 39° 39' 39" longitude, 112° 34' 46" latitude.
5. **SAMPLING/MONITORING:** Emissions from boiler combustion are continuously sampled and monitored at the chimney for nitrogen oxides, sulfur oxides, carbon dioxide, and volumetric flow. Opacity is measured at the fabric filter outlet. Other parameters recorded include heat input and production level (megawatt load). Monitoring will remain unchanged. Other emissions not directly monitored are calculated using engineering judgements, emission factors, and fuel analyses.
6. **OPERATING SCHEDULE:** Operation at IGS is 24 hours per day, seven days

per week.

7. **PROPOSED CHANGE DETAILS and SPECIFICATIONS:** IPSC intends to utilize synfuel as an energy source for the production of electricity. The initial consumption pattern for synfuel will be about 20% to 25% of the total solid fuel combusted at IGS Units 1 & 2. Of the 5.6 million tons of solid fuel utilized, about 1.2 million tons will be synfuel. However, if other sources of synfuel become available, synfuel could possibly represent the total solid fuel source for IGS Units 1 & 2.

Synthetic fuel, or synfuel, as described in this NOI, means coal-derived fuel that qualifies for special tax treatment under IRS Code 29. IPSC further intends it to specifically mean fuel derived only from bituminous or subbituminous coal, which will be a contractual requirement of the synfuel provider. Coal-derived synthetic fuel is coal that has been treated to change the coal in some chemically significant way. Since the current permitting for IGS allows the use of these types of coals, it removes the coal portion of synfuel as a variable in the emission characteristics. Therefore, only the chemical additive portion of the synfuel is of concern regarding how emissions may be affected.

Synfuel is made by the addition of chemical agents to a coal base. In the type of synfuel to be used at IGS, this additive is a latex-based proprietary emulsion applied to the coal and mixed at the coal source. This additive is similar in makeup to products already utilized at IGS for dust control (such as sealing the coal pile) as required by our UDAQ approved fugitive dust management plan. The rate of chemical addition will be 2 pounds per ton of coal, which could utilize up to 5,600 tons per year of the chemical additive.

A full description of this product, identified as Covol 298-1, is enclosed. The product information includes a Material Safety Data Sheet that generally describes the product, as well as a trace analysis comparing base coal to the coal-derived synfuel. IPSC is also submitting a copy of testing performed N.S.Harding & Associates that indicate no significant emission changes when this product is used. This latex product differs somewhat from other synfuels that utilize asphalt or tar based binders which have been reviewed by the EPA and other State DEQ's, whose evaluations and conclusions on those synfuels also indicate no significant changes in emissions. An in-depth mathematical emissions analysis is futile in that the change to coal from the addition of the proposed binder is so insignificant that it would be buried in the variability of naturally occurring coal quality.

8. **ADDITIONAL INFORMATION:** IGS operates under a Title V permit (#2700010002). IPSC intends to continue to operate in full compliance with that permit and applicable requirements. No deviations from permit conditions are expected with this change.

### **Applicability Determinations**

IGS currently utilizes bituminous and subbituminous coals in its fuel portfolio. Products similar to COVOL 298-1 are used for dust control, which are added to and combusted with the coal. The make-up of the additive is such that it, by itself, has high heating value and fuel characteristics which would cause the additive to be completely consumed except for a small ash portion (about 1%). Furnace temperatures would ensure full destruction of the additive portion of the synfuel, which illustrates why emissions, either in pounds per hour or tons per year, would not significantly change.

**New Source Performance Standards.** IGS operates as a New Source Performance Standard (NSPS) power plant, regulated under Title 40 of the Code of Federal Regulations, Part 60, Subpart Da. The proposed changes do not trigger NSPS applicability. "Modification" is defined at 40 CFR 60.14 to include any change in operation of a source that increases the maximum hourly emissions of a Part 60 regulated pollutant above the maximum achievable during the previous five years. (See 40 CFR 60.14(h)).

**Prevention of Significant Deterioration.** IGS was constructed and has been previously modified under Prevention of Significant Deterioration (PSD) permits, and none of the changes proposed herein are a major modification for PSD purposes. In fact, since the products and coals involved in the makeup of synfuel are similar to those already utilized at IGS, the use of synfuel should not technically be considered a modification in operation outside of the semantics required for the Internal Revenue Service.

**Best Available Control Technology (BACT).** IGS was constructed and has been previously modified under PSD permits which required BACT. Since none of the changes described in this NOI are a major modification for PSD purposes, the existing BACT at IGS is still the required level of pollution control.

**Potential-to-Emit.** The PTE for IGS Units 1 & 2 would not change because the heating input required for full load operation can be provided in equal substitution by synfuel, which has no significant change on emission characteristics.

Should you require further information to expedite the approval of this request, please contact Mr. Dennis Killian, Superintendent of Technical Services, at (435) 864-4414, or by e-mail to [dennis-k@ipsc.com](mailto:dennis-k@ipsc.com).

### **Title V Permit and Approval Order**

The changes proposed herein will affect only one condition of the current approval order and Title V permit. Specifically, Condition 17 in AO # DAQE-AN0327009-04 and descriptions II.A.1 and II.A.2 of Special Provisions II.A. of Title V permit #2700010002 should be modified to include synfuel.

Inasmuch as this notice of intent may affect our Title V Operating Permit, I hereby certify that,

based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Cordially,

George W. Cross  
President, Chief Operations Officer, and Title V Responsible Official

BP/RJC:jmj  
Enclosure

cc:	Blaine Ipson, IPSC	Lynn Banks, IPSC
	Bruce Moore, LADWP CES	Eric Tharp, LADWP
	James Holtkamp, LLG&M	

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